



2012 Integrated Energy Policy Report Update Proceeding

Evaluating and Capturing Benefits of Renewable Energy for California

California Energy Commission

April 12, 2012



Purpose

- Seek input on evaluating and capturing the benefits of renewable energy
- Discussion focused on health and environmental benefits
- Economic benefits included but employment impacts to be discussed at later workshop



Purpose

- Discussion to include:
 - Recent assessments of public benefits from different types of renewable energy
 - Whether benefits are sufficiently considered in renewable energy procurement and other programs
 - New ideas to better capture benefits of renewable energy for California
- Workshop input will be used to develop strategies for quantifying and capturing public benefits



Agenda

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|-------------|--|
| 9:00-9:30 | Introduction, opening Comments, workshop Goals |
| 9:30-11:00 | Panel 1: Assessing public benefits of renewable energy generation |
| 11:00-12:30 | Panel 2: State & local policies & programs to capture public benefits of renewable energy |
| 12:30-1:30 | Lunch |
| 1:30-4:30 | Panel 3: Stakeholder experience and new ideas to better capture benefits of renewable energy |
| 4:30-5:00 | Public comments |



Panel Discussions

- Opening statements from panelists
- Panel discussion of agenda questions
- Questions from panel moderators and Commissioners



Panel 1: Assessing Public Benefits of Renewable Energy

Topics for discussion will include

- Various public benefits that renewable energy generation can provide
- Factors that affect those benefits
- Methods and tools to assess and quantify those benefits
- How to reduce uncertainty of benefits and maximize the value of renewable resources



Panel 2: State and Local Policies & Programs to Capture Public Benefits of Renewable Energy

Topics for discussion will include

- Ways in which different agencies incorporate renewable energy benefits into policies and programs
- Barriers agencies face in incorporating more renewable energy benefits into policy and ideas to overcome those barriers
- How renewable resources are currently being rewarded and how they can be better incentivized



Panel 3: Stakeholder Experience and New Ideas to better Capture Benefits of Renewable Energy

Topics for discussion will include

- Current policies and programs that capture benefit values of renewable energy
- Barriers to including benefits of renewable energy that are not currently considered into policies and programs
- Ideas to address those barriers and reduce uncertainty about benefits of renewable energy



Next Steps

- Written comments due April 19, 2012
- Include docket #12-IEP-1D and “Evaluating and Capturing the Benefits of Renewable Energy for California” in subject or first paragraph
- Submit comments to docket@energy.ca.gov with a copy to kmoore@energy.ca.gov
- Workshop documents and transcript, along with instructions for submitting written comments, can be found under the “April 12” heading at www.energy.ca.gov/2012_energy_policy/documents/index.html



Questions for Panel 1

1. Aside from those that are already sufficiently captured in current policies, what public benefits can various renewable technologies provide? Which benefit(s) is the most important driver for increased penetration of renewable energy?
2. To what extent do renewable energy resources reduce localized pollution impacts and provide public health benefits?
 - a) Are there particular locations or siting strategies to maximize public health benefits?
3. How should we determine the best renewable energy resources, development locations, or siting strategies to maximize the reliability benefits of renewable energy resources?
4. Under what circumstances will renewable resources displace and/or replace higher pollution generation (or generators with higher environmental impacts) in the short-term and for long-term resource planning studies (2020, 2030, 2050)?
5. What is the size and significance of the public benefits that have been identified by the panel? What's the value (e.g., estimated \$/MWh)?
6. What is the size and significance of renewable energy benefits for local government such as tax revenues, property taxes, sales tax, and land leases?
7. To what extent do methods and tools sufficiently assess the benefits of renewable energy? Are those methods and tools publicly available?
8. What drives the uncertainties in estimates of future benefits of renewable energy? How can these uncertainties be reduced?
9. How can the state maximize the value of renewable resources? For example, what can the state do to further improve forecasting and visibility of generation from systems connected to distribution lines?



Questions for Panel 2

1. How does your agency incorporate the benefits of renewable energy into its policy decisions?
 - a) Describe your agency's policies or programs that use benefit values of renewable energy.
 - b) What benefits are considered? Which ones are not and why?
 - c) How are the benefits quantified?
 - d) What assumptions are used?
2. What are the barriers to incorporating those factors that are not yet accounted for into policy decisions?
 - a) Are there data and information gaps that should be addressed? Where are these gaps?
 - b) Is your agency's statutory authority sufficient to appropriately identify, quantify, and incorporate these benefits into its policy decisions?
 - c) Are there other priorities or policies that prevent your agency from incorporating these factors into decisions?
 - d) What regulatory barriers or revenue impacts do cities/counties face in siting new renewable energy projects in locations that best capture these benefits? What work is underway to address these issues?
3. What would be required to overcome the barriers identified in the answers to question 2 above?
4. To what extent does electricity procurement by utilities address the public benefits of renewable energy generation?
5. Are renewable resources that displace fossil fuel resources, distribution upgrades, or transmission upgrades being appropriately rewarded?
6. Are renewable technologies that minimize integration costs and contribute to a diverse energy portfolio being appropriately rewarded?
7. How can public policy better incentivize social benefits from renewable energy?
8. What non-energy programs can provide revenue streams to help capture social benefits from renewable energy for California (e.g., grants to improve forest health and reduce wildfire hazard, income generated from fertilizers and fiber resulting from anaerobic digestion, the sale of fly ash to cement manufacturers)?



Questions for Panel 3

1. How do current policies or programs capture benefit values of renewable energy?
 - a) What benefits are considered? Are these benefits evenly distributed across communities, including low income and environmental justice communities?
 - b) How are the benefits quantified?
 - c) What assumptions are used?
2. What are the barriers to expanding the inclusion of other benefits of renewable energy into policies and programs?
 - a) Are there data and information gaps that should be addressed? Where are these gaps?
 - b) Do state agencies have authority to appropriately identify, quantify, and incorporate these benefits into current programs?
 - c) Are there other priorities or policies that prevent providing incentives to better capture benefits of renewable energy?
3. What would be required to overcome the barriers identified in the answer to Question 2?
4. What are the major uncertainties about benefits of renewable energy and how can we reduce these uncertainties?
5. How is renewable energy valued for resource adequacy?